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In a Fortnight: China Hails Progress Toward Military Reforms, Improved Jointness

As the major reorganization of the Chinese military nears its 1-year anniversary, the Chinese press and propaganda organs are reflecting on the progress made and steps yet to take in this core part of China's military modernization project. Though the reforms have made major progress toward streamlining the command structures, commentaries and editorials in official publications calling for the PLA to "cast off" old concepts about the predominance of the Ground Forces (PLAGF) are further indication that the transition has not gone smoothly. Joint operations, the ability of the Army, Air Force, Navy and Rocket Forces to work together in coordinated campaigns, also remains a key bottleneck for the PLA.

China is attempting to resolve a number of issues that remain in terms of military coordination between disparate regions and between military services. The military reorganization reduced the number of Military Regions from 7 to 5, and streamlined the command structure to prevent bottlenecks in communication due to the Ground Forces' primacy in key organizations. The continuing attention given to "Big Ground Army, Big Military Region System Mindset" (大陆军、大军区体制下的思维定势) is understandable given the virtual omnipresence of Ground Force' officers throughout the previous PLA structure.

The latest Defense White Paper, issued in May 2015, directly addressed the imbalance of influence between the services, calling on the PLA to abandon "the traditional mentality that land outweighs sea," a sentiment that has been echoed in *PLA Daily* editorials (MOD, May 29, 2015; PLA Daily, December 1). The relegation of the Ground Forces to the role of "one among many" rather than the heart of the PLA is ruffling feathers and smashing "iron rice bowls".

Though unconfirmed by official Chinese governmental organizations, there is some reason to believe that the downsizing of 300,000 PLA personnel announced by Xi Jinping in September of this year will be expanded to further reduce Ground Force ranks (Bowen Press, November 24). Such a move would go beyond the earlier cut, which focused on cultural units and other non-combat troops, though it is possible that some of the downsized troops could be shifted to the People's Armed Police, as has happened in previous downsizings (*China Brief*, March 24).

The reorganization and downsizings are just one step in the modernization process. Jointness, in particular is a goal in which there has been some more obvious progress. As the year progressed, a number of exercises were carried out to test the new command structures as well as to practice more basic capabilities such as trans-regional movement and joint operations. Realistic, Joint, and Trans-Regional (跨区) exercises are all focused on this goal. Earlier in the year, the Navy participated in its longest-distance-ever joint transregional counter-terror exercise in China's Western province (Southern Weekend, February 8).

However, such exercises require an advanced level of coordination that the PLA is unused to. Perhaps tellingly, most long-distance operations are conducted by a single service. In one such operation, PLA Air Force Spokesperson Senior Colonel Shen Jinke (申进科) noted that Chinese aircraft overflew the Bashi and Miyako Channels (CCTV, November 30). These two channels are to the North and South of Taiwan, between the island and Okinawa and the Philippines, respectively. As noted in previous issues of *China Brief*, such flights are becoming routine, though they largely represent an aspirational combat capability (China Brief, October 26).

In April, the Commander and Commissar of the Eastern Theater, Liu Yuejun (刘粤军) and Zheng Weiping (郑卫平), published an editorial on the reform, noting that joint operational command was essential for effective command (Seeking Truth, April 1). Perhaps reflecting the organizational resistance to the reorganization, much of the editorial focused on obeying the Party's commands and the strategic benefits of such a disruptive, but necessary reform. In late November, a commentary in the PLA Daily reviewed the progress made over the year, including the establishment of the new Rocket Force, Strategic Support Force, Joint Logistic Support Force and other departments (PLA Daily, November 25). The commentary argued that such top-level changes are necessary, and will be followed by improvements further down the chain of command.

Though the PLA certainly faces a number of structural and technological hurdles to becoming a true peer competitor to the United States, clear definition of its modernization goals, recognition of continuing weakness, and While great strides toward "basically accomplishing mechanization and making major progress in Informationization" by 2020, have been made, the odds of making good the reforms and making the PLA a truly joint military in the same time frame—or at least before Xi Jinping steps down, are decreasing. Over the next year more high profile exercises can be expected to hone joint operations and discover remaining bottlenecks in communication. For international analysts, additional attention should be directed toward the theory and progress of PLA joint operations, as well as other keystone concepts such as System of Systems. **[1]**

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Notes

1. A study of "System of Systems" by Kevin McCauley is forthcoming from the Jamestown Foundation. Notable books on Joint Operations from authoritative sources include the following: Chen Rongdi (陈荣弟) and Mu Yongming (穆永明) eds, *Science of Joint Tactics* (联合战术学), (Beijing: Military Science Press, 2014). Tan Song (檀松) and Mu Yongming (穆永明) eds, Lectures on Joint Combat (联合战斗教程), (Beijing: Military Science Press, 2014). Zhang Peigao (张培高) ed., *Lectures on Joint Campaign Command* (联合战役指挥教程), (Beijing: Military Science Press, 2014).

China's Contribution to Peacekeeping Operations: Understanding the Numbers

Dennis J. Blasko

China's participation in UN Peacekeeping Operations (PKO) has received considerable media attention for the past several years as Beijing's international profile has expanded. To be sure, of the five permanent members of the UN Security Council (UNSC), China contributes the largest number of military and civilian personnel to these missions. According to UN statistics as of August 31, 2016, China provides 2,436 troops, 30 military experts, and 173 police for a total of 2,639 personnel out of just over 100,000 uniformed and civilian personnel from all countries performing PKO duties. **[1]** But this is not a new development and when the details below these surface numbers are examined, it becomes clear that, with the help of the foreign media, Beijing has garnered maximum political and propaganda value from a minimal investment in personnel and money.

This is Not New

Despite recent media headlines, China has been the largest contributor among the five UNSC members for well over a decade. China attained that position in March 2004 when it contributed more personnel than the previous UN Permanent Five leaders, the United Kingdom and United States. At that point Chinese personnel numbered 648 compared to 577 for the UK, 482 for the US, 330 for France, and 320 for Russia. Though numbers vary from month to month, the overall trend is clear as Chinese contributions have roughly quadrupled in size over the past 12 years while numbers for the UK and US have fallen to 337 and 68, respectively.

Though China may lead among the Permanent Five members, it currently ranks number 12 among all contributors to UN PKO missions, following Ethiopia, India, Pakistan, Bangladesh, Rwanda, Nepal, Senegal, Burkina Faso, Ghana, Egypt, and Indonesia. The top five contributors each provide more than twice as many personnel as does China, with Ethiopia's total of 8,326 being more than three times China's contribution. As such, China's participation is important and welcomed, but not essential in manning the UN's PKO force.

Overall, China provides about three percent of the total UN PKO force and participates in 11 of the UN's 16 missions. People's Liberation Army (PLA) troops presently are dispatched on six missions: 397 in Mali (MINUSMA), 219 in the Congo (MONUSCO), 230 in Darfur (UNAMID), 412 in Lebanon (UNIFIL), 127 in Liberia (UNMIL), and 1,051 in South Sudan (UNMISS). Chinese police take part in three missions and Military Observers/"Experts on Mission" are found in six missions. Military, observers, and police personnel are combined in three of the total 11 missions (UN, August 3).

Analysis of each individual mission to which China contributes indicates it does not provide the majority of troops to any of them. For example, even the largest PLA contingent of over 1,000 personnel in South Sudan is less than eight percent of the total number of 13,723 military personnel assigned to that mission. In all other cases, China's contributions are an even smaller proportion of the total force. As significant and important as they may be, the success any of individual UN PKO mission does not depend on PLA involvement.

PKO and MOOTW

The Chinese government is understandably proud of its work in this area and publicizes China's contributions in its internal and the international media. For example, in April 2015 the Chinese Defense Ministry predicted, "By the end of 2015, the total number of Chinese peacekeepers will increase to 3,100 from the present 2,700, and China will rise to the 7th position in the 121 contributing countries of UN peacekeeping operations from the current 11th" (MOD, April 8, 2015). A noble goal indeed, and UN statistics show it almost achieved those marks in December 2015 with a total personnel contribution of 3,045 and an overall ranking of number nine, but by June 2016 its numbers dipped below 3,000.

President Xi Jinping also attracted a lot of attention when he announced at a meeting of the UN General Assembly in September 2015 that, "China will contribute 8,000 troops for a United Nations peacekeeping standby force" (Reuters, September 28, 2015). However, no details of who would man that force and exactly what it will do were released publically. A year later, the Defense Ministry spokesman could only report that China was still in the process of registering these 8,000 personnel (ChinaMil, September 30). Whatever the status and mission of that 8,000 standby force actually turns out to be, it is not the same as "raising [the number Chinese peacekeepers] to 8,000" as has been reported by some foreign media (see for example, *Financial Times*, November 22).

Nonetheless, for the past decade the Chinese government and military have been serious in their commitment to supporting UN peacekeeping operations. PKO missions are considered among several other tasks the PLA categorizes as "non-traditional security" or "military operations other than war" (also known as MOOTW). According to the 2013 edition of *The Science of Military Strategy* published by the Chinese Academy of Military Science, MOOTW is now considered to be one of the three basic ways to use force along with warfighting and military deterrence. **[2]** In addition to the political benefits accrued by the Chinese government, the PLA senior leadership obviously sees military benefit to having its forces participate in UN PKO missions and other "non-traditional security" tasks.

A Very Small Percentage of the PLA Conducts PKO Missions

Even with the growth in Chinese participation to UN PKO missions over the past decade, the total number of PLA personnel deployed at any one time is an extremely small fraction the total force: between 2,600 and 3,000 or roughly one-tenth of one percent of the 2.3 million active duty force. (After the on-going 300,000-man reduction is completed, if the numbers of soldiers on PKO remains approximately the same, that percentage will rise to about .12 percent). The overwhelming majority of personnel sent on PKO missions have been from the Army and many officers and noncommissioned officers have conducted multiple PKO deployments.

In the 1990s the PLA designated an engineer brigade located in Beijing to be the primary unit for PKO missions. In 2002, the PLA committed itself to provide one standard UN engineering battalion, one standard UN level II hospital, and two standard UN transport companies to these operations. The Chinese government soon thereafter, however, volunteered for missions far beyond that level of commitment. As China's participation expanded, Army units from most of the country (except from the former Nanjing and Guangzhou Military Regions) were tasked to participate in these high-profile missions. For example, units from the Shenyang Military Region's 16th and 39th Group Armies provide troops to the mission to Mali; units from the Beijing Military Region, including the 27th and 38th Group Armies, have provided units for the missions in Liberia, Congo, and South Sudan; Lanzhou Military Region's 21st GA and Xinjiang Military District units have also provided units for the Congo; elements from Yunnan and the 13th and 14th Group Armies have been sent to Lebanon; and all group armies from the former Jinan Military Region, plus most recently the 65th Group Army, have participated in deployments to Sudan, South Sudan, or Darfur.

The vast majority of units and personnel deployed to UN PKO missions have been from engineering, transport, and medical units. Their main tasks have been to construct and maintain infrastructure, such as roads, bridges, airports, water, and power facilities, perform mine clearing activities, and provide medical (including sanitation and epidemic prevention operations), search, rescue, and evacuation, and logistics support in their mission areas. While they are authorized to protect themselves if attacked, most deployed troops have not been combat troops.

However, in January 2012 the PLA sent a "security unit," likely an infantry platoon (of about 50 men) from the 162nd Motorized Infantry Division of the 54th Group Army in the former Jinan Military Region to South Sudan. **[3]** In late 2013 it deployed a "guard detachment," a company-size unit of 170 personnel, from the Shenyang Military Region to Mali (MOD, April 10, 2015). These units were tasked to protect other Chinese peacekeepers and protect their field base locations. One Chinese peacekeeper was killed and five other soldiers were wounded (all from

the 16th Group Army) in Mali after a car bomb attack on May 31 (ChinaMil, June 3).

In December 2014, the Army deployed its first infantry battalion to the South Sudan. This 700-strong force was actually a composite force composed of personnel from a motorized infantry brigade in the 26th Group Army and two companies from a division of the 54th Group Army both in the Jinan Military Region (ChinaMil, December 23, 2014). Under the UNMISS mandate, the battalion's main mission is to "protect civilians, UN personnel and facilities, protection of humanitarian relief operations and support [Intergovernmental Authority on Development] supervision verification and other tasks in the future as needed" (*Sudan Tribune*, December 26, 2014). The second rotation in December 2015 apparently was a combined arms infantry battalion, reinforced with armor, artillery, and reconnaissance units, of about 700 people from the 20th Group Army (ChinaMil, December 3, 2015). Two Chinese soldiers from this force were killed in during a fight between South Sudan government and anti-government forces in July 2016 (ChinaMil, September 8). After this incident, the UN conducted a review of the action and was critical of the PLA battalion commander's performance, which was due in part to a confused command relationship. More ominously, however, there were at least two instances in "which the Chinese battalion abandoned some of its defensive positions." No further details were released to the public. The Chinese Ministry of Defense spokesman denied the allegations. **[4]**

To date, whether they have been engineers, transportation, logistics, medical, or infantry forces, the PLA has deployed only small units (分队, *fendui*), from platoon to battalion size, and not larger units of regimental or brigade size. Oftentimes these small units are composite organizations composed of elements from multiple units and headquarters. Personnel and units spend several months training in preparation before deployment at their home bases, in military academies, or at the PLA's Peacekeeping Center in Huairou, established in 2009 (*China Daily*, June 29, 2009). **[5]**

Units usually deploy in multiple, sequential "batches" by commercial, not military, aircraft and use commercial ships to transport heavy equipment like armored personnel carriers and engineering bull dozers and earth movers. Tours of duty have been extended from 8–12 months. In October 2015, the PLA sent its first contingent of four helicopters and 140 personnel to the UN mission in South Sudan traveling by sea from the commercial Tianjin port to arrive in January (Xinhua, October 10).

PKO deployments have multiple benefits for the personnel and units involved and their higher headquarters. Engineering, logistics and medical units deployed on PKO perform functions similar to those that they may be tasked to undertake in combat. Combat forces conduct patrols, armed escort, and local security in a hostile environment. Deployed PLA forces receive UN scrutiny and the attention of the Chinese and foreign media. These tasks, in unfamiliar territory surrounded by locals who do not speak Chinese, challenge small unit leaders and give them, and their troops, confidence and a sense of *esprit de corps* when missions are accomplished successfully. By assigning PKO deployments to so many different units, the senior PLA leadership spreads out the opportunity for multiple higher level headquarters at corps and theater level to plan for, execute, and support overseas missions, still a relatively rare assignment for most of the PLA. At the strategic level, the PLA acquires intelligence on the areas it deploys forces, learns to interact with foreign militaries and non-governmental organizations, and burnishes its reputation as contributor to "peace and stability." Because of their UN-mandated missions, however, PLA forces generally are not tasked to protect Chinese citizens, commercial entities, and investments in these foreign lands.

Other Contributions to Peacekeeping Operations

The Chinese Ministry of National Defense Peacekeeping Affairs Office establishes policies, oversees PLA participation in UN PKO missions, and interacts with foreign governments and non-governmental organizations. The Central Military Commission's Joint Staff Department Operations Bureau Overseas Operations Office conducts the actual coordination of PKO activities (81.cn, March 31).

In addition to deploying units, China has assigned two senior officers to command PKO missions: Major General Zhao Jingmin served as commander of the troops of the UN Special Mission for the Referendum in Western Sahara in 2007 and Major General Liu Chao was appointed as commander of the UN Peacekeeping Force in Cyprus in 2011.

The Chinese government also contributes funds to PKO operations expenses. According the UN statistics, the U.S. is the largest contributor, providing 28.57 percent of UN PKO operating funds, followed by China at 10.29 percent, and Japan at 9.68 percent. In dollars, out of a total $7.87 billion budget for the fiscal year ending in June 2017, that amounts to about $2.25 billion for the US and about $810 million for China. As a side note, "Countries volunteering uniformed personnel to peacekeeping operations are reimbursed by the UN at a standard rate, approved by the General Assembly, of a little over $1,332 per soldier per month," which means China gets approximately $39 million back for its personnel contributions.

Conclusion

The PLA's contributions to UN PKO missions are an excellent example of the "Three Warfares," consisting of media (or public opinion) war, psychological warfare, and legal war, in practice. By participating in UN-mandated missions, the Chinese government can maintain it has a legal basis for its actions and is not violating its long-held national policy of non-interference in the internal affairs of other countries. Both China's own media and the foreign media report on these missions, especially if PLA forces receive accolades from the host country or UN officials and when PLA soldiers are killed or wounded in the performance of their duties. The level of media attention also permits the PLA to conduct psychological operations demonstrating its commitment to UN principles and the creation of a peaceful international environment.

Yet the number of PLA participants in UN PKO is miniscule compared to the overall size of the present and future PLA. While the units involved and their higher headquarters receive benefits from these missions, these experiences, for the most part, do not replicate actual combat experience and are distributed within an extremely limited subset of the entire PLA, mainly engineering and logistics forces. The number of infantry and other combat personnel deployed on all missions over the past four years probably amounts to less than 2,000 personnel. Likewise, the amount of funds the Chinese government contributes to these efforts (less than one billion dollars) is a minor fraction of overall government expenditures ($1.4 trillion in 2014) (theglobaleconomy.com, [Accessed November 25]).

Nevertheless, China gained significant propaganda value out of its minimal investment. The trends in Chinese participation in UN PKO missions have been evident for well over a decade. They are a significant element of the PLA's long-term modernization process, but need to be kept in proper perspective. While providing some PLA units the still comparatively infrequent opportunity to operate beyond the borders of China and enhancing the PLA's confidence in itself and its prestige both at home and abroad, peacekeeping missions do not substitute for the kind of warfighting experience necessary for future mid- or high-intensity combined arms and joint operations.

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Notes

1. Unless otherwise noted all statistics are drawn from UN publications available here: https://www.un.org/en/peacekeeping/resources/statistics/contributors.shtml, https://www.un.org/en/peacekeeping/resources/statistics/factsheet.shtml, https://www.un.org/en/peacekeeping/resources/statistics/contributors_archive.shtml, accessed November 25.
2. The 2001 edition of the book included only two "basic functions of the armed forces," warfighting and deterrence, so the addition of MOOTW is an important modification to previous doctrine.

3. Daniel Hartnett, "China's First Deployment of Combat Forces to a UN Peacekeeping Mission—South Sudan," US-China Economic and Security Review Commission, March 13, 2012. http://origin.www.uscc.gov/sites/default/files/Research/MEMO-PLA-PKO_final.pdf
4. "Executive Summary of the Independent Special Investigation into the violence which occurred in Juba in 2016 and UNMISS response," UN, November 1, 2016, http://www.un.org/News/dh/infocus/sudan/Public_Executive_Summary_on_the_Special_Investigation_Report_1_Nov_2016.pdf
5. Civilian police forces are trained at the China Peacekeeping Police Training Center in Langfang.

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Modernizing Military Intelligence: Playing Catch-Up (Part One)

By Peter Mattis

This two-part series is adapted from remarks delivered at The Jamestown Foundation's Sixth Annual China Defense and Security Conference and chapter in China's Evolving Military Strategy *(2016). Part One addresses the People's Liberation Army's (PLA) evolving thinking on intelligence. Part Two addresses the organizational aspects of how the PLA's intelligence evolved away from military operations and how this problem is being addressed under the current reform program.*

While the People's Liberation Army's (PLA) new satellites, ground-based sensors, unmanned aerial vehicles, and command and control are frequently the subject of analysis, the tension between the capabilities, concepts, and organization of its military intelligence system tying them all together tends to be overlooked (*China Brief*, February 10, 2011; *China Brief*, August 22, 2014; *China Brief*, May 11). The military's intelligence effort and organization, has not been well-suited to exploit these technologies or provide the kind of support to military commanders that new PLA warfighting concepts, like "system of systems" operations or information warfare in the network and electro-magnetic domains require (*China Brief*, October 5, 2012; *China Brief*, April 16, 2015). This disconnect is unsurprising, given that the intelligence system was created in the early 1950s. The reforms announced last year are driving a radical shift in how the PLA organizes intelligence, finally realigning the military organizations to more closely resemble Chinese military's thinking about intelligence developed in the early 2000s. Underpinning changes to the former General Staff Department, army headquarters, and technical reconnaissance bureaus is a fundamental recognition about the need to clarify responsibilities and information flows amid an incoming tidal wave of information available from the PLA's new equipment.

The first part of this essay examines what the PLA means by intelligence and its defining features, while the latter half examines the three roles the PLA gives to intelligence: supporting decision making; supporting deterrence operations; and supporting information warfare.

Intelligence: Supporting Decision Makers at All Levels

Intelligence, for the PLA, is knowledge that allows a decision-maker to resolve the specific dilemmas holding them back from reaching a decision—a perspective that varies from most Western definitions only in its focus on problem-solving. **[1]** The Chinese concept of intelligence most widely used in PLA writings originated with Dr. Qian Xuesen (钱学森), the U.S.-trained scientist who led China's rocket program from the 1950s onward. Qian observed: "Intelligence is the knowledge necessary to solve a specific problem. This view embodies two concepts. One is that [intelligence] is knowledge, not false, nor random. And the other? It is for a specific requirement and also for a specific question, so timeliness and relevance are very important..." **[2]** Variations of this definition appear in both PLA publications and professional information science journals to which PLA

officers contribute. For example, *Military Informatics*, a PLA-sponsored study, stated that "intelligence is…the knowledge necessary to solve a specific problem and…the value of intelligence is determined by its degree of usefulness to consumers." Since decision-makers' needs define its value, intelligence has several characteristic qualities that inform its functioning. **[3]**

Among these qualities are its purposefulness or target-oriented focus (目的性), timeliness (时效性), and confidentiality (保密性). The first two qualities are obvious in the context of supporting decision-makers. Intelligence cannot be random, but must be directed, and intelligence must arrive in advance of a decision for it to be useful. The need for confidentiality in intelligence stems from the role of intelligence in the broader conduct of information warfare. Intelligence operations, whether offensive or defensive, occur in an explicitly competitive domain where success is zero-sum and relative to the success of one's adversary. The clandestine or discreet acquisition and dissemination of intelligence helps to ensure its reliability and integrity, so decisions based upon it are objective and undistorted by outside interference. **[4]**

Perhaps the most important quality of intelligence, however, is the need for selectivity (选择性) at every step from collection to final delivery to decision-makers. In contrast to the model espoused by the "grains of sand" approach, PLA writings are very clear about this: at each step, intelligence officers must make decisions about what to collect, what to validate, and how much effort to expend. After collection, analysts must determine which information requires analysis, and then which information should be forwarded to decision-makers. The consequence of not being selective is to overload both the intelligence system and decision-makers with unnecessary or irrelevant information, potentially paralyzing the system. China's continued deployment of satellites, fixed and mobile radars, airborne-early warning and command and control systems, and several different models of unmanned aerial vehicles is dramatically increasing the amount of information arriving in PLA headquarters. Chinese writings suggest this challenge is a problem of selectivity and command judgment rather than one of processing as it is often discussed in the United States. Put another way, information overload can be overcome through better education and better organizing the relationship between intelligence work and military operations.

A final feature of conducting intelligence work, according to both the *Science of Military Intelligence* and *SMS 2001*, is the need to account for one's own side. This awareness is a natural implication of selectivity and judgment, because intelligence cannot be selected unless there is a close connection between intelligence and command. This offers a distinct counterpoint to the U.S. approach to intelligence that assumes objective, reality-based intelligence support requires distinct operational and intelligence staffs with the latter focused on the adversary. The *Science of Military Intelligence* notes "military intelligence should take the enemy's situation as the primary task, but also should not be limited to the adversary's situation (it also should include [one's own] side and related objective circumstances)." **[6]** *SMS 2001* explains that intelligence plays a role in matching one's specific strengths to an adversary's weakness, and in helping calibrate coercive measures to control escalation. This cannot be done without a clear picture of one's capabilities and ongoing operations. **[7]**

The PLA organizes intelligence between units designated for intelligence (情报) or reconnaissance (侦察). Intelligence bureaus from the Joint Staff Department's Intelligence Bureau (formerly the GSD Second Department, or 2PLA) on down compile, analyze and disseminate information in some form. These units also may have some collection responsibilities, but their primary purpose is compiling intelligence to support the appropriate level of command. Military reconnaissance units are first and foremost collection units, performing the "action taken to obtain the required intelligence for national security." Technical reconnaissance (技术侦察), such as the technical reconnaissance bureaus previously associated with the services and military regions, refers specifically to "the use of technical equipment or technical means to carry out reconnaissance." **[8]** Although this distinction has little to do with how the PLA views intelligence in the Information Age, it is a critical component for understanding how the Chinese military is reorganizing intelligence work

within the Joint Staff Department and the Strategic Support Force.

The Roles of Intelligence in an Informatizing World

Intelligence serves three basic roles for the PLA. The first, as noted above, is supporting decision-making at all levels from the Central Military Commission (CMC) down to the tactical level. It is a recognized and valued military staff function. The second is enabling deterrence and compellence, so that controlled pressure can be applied to a foreign country without triggering a war. The third is enabling information warfare in which intelligence plays a role at every level, including how to understand an adversary's society and social structures, and across each information warfare discipline.

First, intelligence supports strategic decision-making at the level of the Central Military Commission (CMC) and tactical decision making in the field. Without elements of a general staff to handle intelligence, the PLA could not function on the basis of "calculations, scientific evaluations, and verifications" and could not coordinate their activities to execute a chosen strategy. This has remained a consistent point through the release of the 2013 edition of the *Science of Military Strategy*, which emphasizes strategic intelligence as a necessary component of both the art and science of strategy. **[9]** At the CMC level, the PLA's modernization drive may not have substantially affected how intelligence functions. At lower levels, however, information technology for both sensors and communications shapes how the PLA is thinking about intelligence in fundamental ways.

The PLA has held since at least 2001 that the proliferation of technical sensors and digital forms of intelligence data will continue to reshape the discipline, both in terms of what intelligence can do and how to organize intelligence support. Electronic data storage and communications allow the pluralization of intelligence users through ease of collection and dissemination. PLA scholars have also noted that local informatized warfare places requires intelligence collection to be flexible enough to deal with rapidly changing circumstances. **[10]** Integrating and sharing this data is core element of "system of systems" operations to enable precision strikes and to allow modular force groupings tailored to specific missions (*China Brief*, July 6, 2012).

In the early 2000s, the PLA expected that several other related qualities of intelligence would also change under modern, informatized conditions. The potential comprehensiveness of reconnaissance was moving toward greater transparency on the battlefield. Alongside this transparency, greater precision was needed to exploit the opportunities and vulnerabilities provided by technically-advanced sensors. These factors placed a premium on speed, and a traditional model involving a lengthy process of collection, assessment, and dissemination would not meet PLA requirements. Practically, intelligence dissemination would need to be in real time for commanders to support decision-making and for shooters to enable precision strikes. The logic of these developments suggested the PLA should automate of information management, especially at the tactical level. The explosion of information that modern intelligence could gather threatens to overwhelm existing intelligence procedures and could not be managed by human hands, alone and unaided. An integrated intelligence picture compiled and disseminated in real time, however, needed a PLA-wide response that crossed the different military regions and services. At the time, each service operated on different networks with different hardware and software protocols. Integrating these different systems was a necessary first step for successfully executing PLA intelligence doctrine. **[11]**

Nothing in the more recent PLA publications, like *SMS 2013*, suggests PLA thinkers misunderstood where the world of intelligence was going. These publications focus on applying intelligence rather than developing any new ideas.

Second, the PLA considers intelligence to be a critical component of deterring would-be adversaries and conducting coercive diplomacy, both of which are encompassed by the same Chinese term (威慑, or *weishe*). *SMS 2001* highlights several tasks that intelligence must perform to guide decision-makers in these endeavors. The first is to provide a systematic understanding of the other side's decision-making,

including both organizational and psychological factors. This enables the formulation of actions that will result in psychological shock. The second is to help China's leaders calibrate and match Chinese objectives to the right strength of coercive or deterrent measures. Keeping these two objectives in balance is necessary in order to avoid missteps that might mistakenly escalate a situation. The third is to target deterrent measures against "a target that the enemy must save," forcing the adversary to cede the initiative, take defensive action, and/or withdraw. Such targeting hides the vulnerabilities of one's own side. Finally, intelligence provides a feedback mechanism that alerts Chinese decision-makers to how the adversary is responding to the PLA's coercive or deterrent measures. A properly working intelligence feedback mechanism helps Beijing maintain the initiative, because intelligence allows decision-makers to respond promptly and with confidence to the inevitable crises and contingencies that arise when force is used against an adversary. **[12]**

Third, supporting deterrence operations highlights the expansive nature of intelligence support to information warfare in the broadest sense. Placing intelligence within this framework links it directly to the creation and use of covert power apart from its uses to support decision makers. Chinese military thinkers label intelligence as one of the four components of information warfare, which also includes network warfare, political/psychological warfare, and electromagnetic warfare. Each of these areas, including intelligence warfare, is where the PLA seeks an advantage over an adversary's decision-making processes, ranging from how information is collected to how it is understood, communicated, and used. Because an adversary is not transparent about any of these areas, intelligence is required to map the adversary's networks, society, sensors, and intelligence apparatus. Surveying the adversary's information landscape is prerequisite for all other elements of information warfare. Thus, as the *Science of Military Intelligence* described it, modern information warfare has shifted intelligence from a "subordinate and protective" role to a leading role in identifying what operational goals to pursue and targets to strike. **[13]**

In addition to the role cutting across the information warfare disciplines, the tactical and strategic dimensions of information warfare add another layer of complexity to modern demands placed on intelligence. For example, at a tactical level, psychological warfare might aim to undermine small units' willingness to keep fighting. At a strategic level, it might aim to shift an adversary's perspective about China. The information required to do this effectively goes beyond traditional requirements about an adversary's capabilities and intentions to address how a society functions. In one sense, this is now new. Since at least 1963, the *Political Work Regulations for the People's Liberation Army* stated an imperative "to investigate and study the condition of the enemy forces, and to lead in the work designed to dis-integrate enemy forces." **[14]** One of the PLA's information warfare experts, Ye Zheng, explained this guidance for intelligence collection more concretely as including "the enemy's national state of affairs, the circumstances of the enemy's military, the psychological warfare situation of the enemy's military, the circumstances that the enemy currently faces, and the real psychological state of our own military and the state of our own equipment and materials, etc." **[15]**

Conclusion

PLA thinking on intelligence has evolved remarkably little over the last fifteen years, because, in many respects, it has not been necessary. The PLA's steady modernization effort to conduct joint operations on shared knowledge of the battlefield with precision-guided munitions demanded more from the PLA's intelligence apparatus than it could give without a serious overhaul. The ambitious set of intelligence missions—supporting decision-making at all levels of command, helping calibrate deterrence operations, and guide information warfare—suggests the challenges for PLA intelligence is not in the concepts but the organizational infrastructure to execute. Even though the sweeping changes announced in the latest round of reform beginning in November 2015 are not yet clear, the reported changes indicate the intelligence concepts outlined above finally may be put to the test. The organizational dimensions of China's evolving military intelligence system will be the focus of Part Two to explain the divergence between

the PLA's concepts and organization of intelligence as well as how the intelligence system has changed under the new reforms.

Notes

1. For example, U.S. Executive Order 12333, which outlines the purpose and scope of U.S. intelligence activities, defines intelligence as "the necessary information on which to base decisions concerning the conduct and development of foreign, defense and economic policy, and the protection of United States' national interests from foreign security threats."
2. Chen Jiugeng, "Regarding Intelligence and Information [关于情报与信息]," *Journal of Information* (情报杂志) 19, No. 1 (January 2000), pp. 4–6.
3. Yan Jinzhong, ed., *Military Informatics Revised Edition* [军事情报学修订版] (Beijing: Shishi chubanshe, 2003), p. 13.
4. Ibid., pp. 4–5.
5. Zhang Shaojun, chief editor, Zhang Shaojun, Li Naiguo, Shen Hua, and Liu Xinming, eds., *The Science of Military Intelligence* [军事情报学] (Beijing: Junshi kexue chubanshe, 2001), p. vi.
6. Peng Guangqian and Yao Youzhi, eds., *Science of Military Strategy* [战略学] (Beijing: Military Sciences Press, 2001), p. 191. Hereafter, SMS 2001.
7. Liu Zonghe and Lu Kewang, eds., *Military Intelligence: China Military Encyclopedia* (2nd Edition) [军事情报: 中国军事百科全书(第二版)], pp. 22, 95.
8. SMS 2001, p. 214; SMS 2013, p. 264.
9. Ye Zheng, *Lectures on Information Operations Studies* [信息作战学教程] (Beijing: Academy of Military Sciences Press, 2013), p. 51; Zhang et al, *Science of Military Intelligence*, p. 195; Xiao Tianliang, ed., *The Science of Military Strategy* [战略学], (Beijing: National Defense University Press, 2015), p. 260.
10. Zhang et al, Science of Military Intelligence, pp. 195–197.
11. SMS 2001, pp. 191–193.
12. Zhang et al, *Science of Military Intelligence*, pp. 188–189.
13. David Finklestein, "The General Staff Department of the Chinese People's Liberation Army: Organization, Roles, and Missions," in James Mulvenon and Andrew N.D. Yang, eds., *The People's Liberation Army as Organization Version 1.0* (Santa Monica, CA: RAND, pp. 126–128."Political Work Regulations for the Chinese People's Liberation Army," in Ying-mao Kau, Paul M. Chancellor, Philip E. Ginsburg, and Pierre M. Perrolle, *The Political Work System of the Chinese Communist Military: Analysis and Documents* (Providence, RI: Brown University East Asia Language and Area Center, 1971).
14. Ye, Lectures on Information Operations Studies, p. 185; Zhang et al, Science of Military Intelligence, p. 190.

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Quantum Leap (Part 1): China's Advances in Quantum Information Science

By Elsa Kania and John Costello

This is the first in a series of two articles that examines and evaluates the ramifications of Chinese advances in quantum information science. While this initial article reviews China's framework for and progress in this scientific domain, the subsequent article will evaluate the military and strategic implications of quantum technologies.

In August 2016, the launch of the world's first quantum satellite, *Micius* (墨子), drew international attention to China's rapid advances in quantum information science. These breakthroughs demonstrate the success of a long-term national research agenda that prioritized innovation in this critical technological domain. Under the leadership of Xi Jinping, this high-level focus on quantum information science has intensified and been explicitly linked to both national

security and economic competition. While it is difficult to evaluate the feasibility or timeframe within which China's quantum ambitions may be realized, Chinese scientists' consistent progress in quantum information science seems likely to continue. Looking forward, China could potentially leapfrog the U.S. in this critical technological domain to become the world's first quantum power.

High-Level Prioritization of Quantum Science

In recent years, China has placed quantum information science at the center of its national security strategy. This research agenda took on increased importance after the leaks by former NSA contractor Edward Snowden. Snowden's revelations detailing the extent of U.S. intelligence capabilities intensified the Chinese leadership's anxieties regarding China's domestic information security and its susceptibility to advanced forms of espionage. In particular, the Snowden leaks were a wake-up call regarding the disparity between China's offensive cyber capabilities and those of the United States. The result has been an intensified focus on quantum technologies with the potential to bridge these offensive and defensive gaps. In fact, the Snowden leaks were so central to Chinese motivations that Snowden has been characterized as one of the two greatest individuals contributing most to China's subsequent advances in this technological domain (Xinhua, August 16). The second, Pan Jianwei (潘建伟), is typically lauded as generally regarded as the father of Chinese quantum information science. While quantum communications networks are much more secure against cyber espionage, future quantum computing has the potential to leapfrog U.S. cyber capabilities.

Consequently, quantum technology has attracted the attention of the Chinese leadership at the highest levels, and Xi himself has emphasized the strategic importance of quantum technologies to national security and particularly cyber security. In September 2013, Xi Jinping and other Politburo members visited Anhui Quantum Communication Technology Co. Ltd. for a collective learning session, meeting with Pan Jianwei and the company's general manager, before viewing a demonstration of quantum communication technology (Quantum CTek, September 30, 2013). In November 2015, at the 18th Party Congress' 5th Plenum, Xi Jinping included quantum communications in his list of science and technology projects that are prioritized for major breakthroughs by 2030, due to their importance to China's long-term strategic requirements (*Xinhua*, November 3, 2015). In April, Xi visited the University of Science and Technology of China, where he met with Pan Jianwei and praised his progress (*Xinhua*, April 27). During the 36th Politburo study session on cyber security, Xi also emphasized the importance of advancing indigenous innovation in quantum communications and other critical cyber information technologies (*Xinhua*, October 9).

Quantum Science and Applications

Property	Explanation	Advantage
Superposition	Particles exist across all of the possible states simultaneously.	The applications of superposition include the capability to generate "qubits," quantum analogs of the bit that exist in a superposition of multiple states, which enable quantum computing capabilities that are vastly more powerful than classical computing.
Entanglement	When multiple particles are generated such that their quantum states are linked even when separated at great differences, enabling what Einstein characterized as of "spooky action at a distance"	Through entanglement, information can be exchanged between quantum systems, a process that enables technologies such as quantum key distribution, a cryptographic technique that involves the secure exchange of secret keys, as well as various forms of quantum sensing.

This high-level commitment has been reflected by the inclusion and promotion of quantum information science through China's five-year plans. The 11th Five-Year Plan (2006-2010) incorporated basic research on quantum communication as a key research direction, while launching a major research program on quantum control (MoST, October 25, 2006; *Science and Technology Daily*, November 16, 2006). In the 12th Five-Year Plan (2011-2015), the "Quantum Control Research National Major Scientific Research

Plan" (量子调控研究国家重大科学研究计划) was introduced as a special topic (MoST, July 17, 2012). The 13th Five-Year Plan (2016-2020), formulated in the aftermath of the Snowden leaks, intensifies the prioritization of quantum information science, including "quantum control" in the category of "basic research related to national strategic requirements" (*Xinhua*, March 18). This is further reflected in the 13th Five-Year Plan's National Science and Technology Innovation Plan (国家科技创新规划), which emphasized quantum control, quantum information, quantum communication, quantum computing, and quantum navigation (State Council, August 8).

Through national research and development plans for science and technology, China has translated the high-level focus on quantum information science into action. The consistent funding of basic and applied research in this scientific domain, which dates back to the 1990s, has primarily occurred through programs including China's National High-Technology Research and Development Plan (国家高技术研究发展计划) or "863 Plan" and the former National Key Basic Research and Development Plan (国家重点基础研究发展计划) or "973 Plan" ("863 Plan"; High Technology Correspondence, July 1996). In 2001, Guo Guangcan (郭光灿) founded the Key Laboratory of Quantum Information at the University of Science and Technology of China (USTC). At that point, his team received initial support through the 973 plan (CAS Key Laboratory of Quantum Information). Also in 2001, Pan Jianwei, at the age of 31, returned to China after receiving a PhD from Vienna University, where he had collaborated with leading quantum physicist Anton Zeilinger. At USTC, Pan was involved in the formation of the Quantum Information Laboratory (量子信息实验室) (*Xinhua*, August 16; USTC). The initial support and funding for their research enabled notable experimental advances throughout the early 2000s that further accelerated interest in and funding for their ambitious research agenda. In 2003, Pan's team formulated the vision of an integrated world quantum communications network and the future creation of "experimental quantum science satellites" (*Xinhua*, August 16). Over a decade later, Guo and Pan remain dominant in the field, and their ambitious goals may be within reach.

In the years since the Snowden leaks, the high-level focus on and investments in quantum information science have only intensified. This year's large-scale reorganization of China's national-level research and development planning, including the consolidation of the 863 and 973 plans, has reinforced the focus on quantum information science and multiple quantum technologies. The new National Key R&D Plan (国家重点研发计划) included basic research on quantum control and quantum information among its prioritized projects (MoST, February 16). The available guidance for the project in 2016 and 2017 highlighted research tasks including quantum communications, quantum computing and simulations, related electronic systems, small quantum systems, and quantum precision measurement (MoST, February 5; MoST, August 1). This research agenda has become a national priority due not only to strategic and security concerns, but also the research successes achieved under the leadership of Guo Guangcan and Pan Jianwei.

China's Quantum Breakthroughs

Within the past fifteen years, Chinese research in quantum information science has achieved unique and unexpected successes. In particular, China has progressed significantly in quantum cryptography, which enables quantum communications, and achieved concurrent advances in quantum computing. Quantum cryptography creates unbreakable, almost unhackable, protection for computer networks, based on the secure sharing of cryptographic keys for one-time pad (OTP) cryptography through the exchange of information via quantum entanglement. On the other hand, quantum computing, which uses "qubits" (i.e., a quantum analogue of the "bit," which simultaneously exists in a superposition of the states of 0 and 1), will convey an extreme advantage in computing power, solving complex algorithms dramatically more quickly than classical computers. Based on "Shor's algorithm," a mathematical process to derive cryptographic keys, quantum computers would be able to defeat standard encryption methods (Youtube, [accessed November 22]).

Quantum Cryptography and Quantum Communications

China's progress in quantum communications networks is best demonstrated by the launch of the world's first quantum satellite, *Micius* (墨子), this past August (*Xinhua*, August 16; China Military Online, August 16). *Micius* established a quantum key distribution network with the transmission of quantum information between the satellite and multiple ground stations (*Xinhua*, August 16). This recent launch is a component of the project Quantum Experiments at Space Scale (QUESS), initiated in 2011, that has involved collaboration between a team led by Pan Jianwei from USTC, the Chinese Academy of Sciences (CAS), and the Austrian Academy of Sciences. China plans to take this further. The *Tiangong*-2 space station, launched in September, will also engage in quantum key distribution experiments (*People's Daily*, September 18).

The *Micius* satellite represents the culmination of nearly two decades of steady progress on free space quantum teleportation, which uses the transmission of quantum states through the air to exchange quantum cryptographic keys. Notably, in 2005, Pan Jianwei's team first confirmed the feasibility of a quantum satellite in the world's first "free space quantum communication experiment," (*Physical Review*, April 22, 2005). Since then, Chinese scientists have progressively increased the distance at which free space quantum communications can be operationalized, breaking several world records in the process. In 2010, a team of researchers achieved quantum teleportation across 16 kilometers of free space (*China Brief*, August 19, 2010; *Nature Photonics*, May 16, 2010). Then, in 2012, Pan Jianwei and his colleagues demonstrated successful quantum teleportation and entanglement across 100-kilometer free space channels (*Nature*, August 8, 2012). These experimental achievements have since extended beyond the laboratory, with the launch of *Micius*.

Additionally, ground-based fiber-optic quantum communication networks, which are more secure and reliable, have reached a much more advanced stage than their free space counterparts. Chinese government authorities have begun a massive effort toward operationalizing these technologies to secure their most sensitive networks. In 2009, USTC's CAS Key Laboratory of Quantum Information (量子信息重点实验室) established the world's first "quantum government network" (量子政务网) in Wuhu, Anhui (*Guangming Daily*, May 20, 2009). Most notably, in 2012, for the 18th Party Congress, Pan led a team of researchers to create quantum communications networks that securely connected the venue hosting the meeting, the delegates' hotel rooms, and the central leadership compound *Zhongnanhai* (*Caixin*, February 6, 2015). At a larger scale, China has been building and will soon complete the world's largest ground quantum optical fiber communications system. The "Quantum Beijing-Shanghai Trunk" (量子京沪干线) will stretch approximately 1,240 miles between Shanghai and Beijing (*Xinhua*, March 3; *Xinhua*, August 16). According to Pan Jianwei, this quantum communications network will be used for the secure transmission of information in government, finance, and other sensitive domains (*Xinhua*, March 3).

Quantum Computing

While Chinese advances in quantum cryptography have achieved multiple world records and seemingly outpaced parallel global efforts, Chinese quantum computing efforts remain relatively nascent. Nonetheless, known experimental advances in quantum computing indicate that China has increasingly kept pace with international advances in quantum computing and also accomplished notable breakthroughs (CAS, 2010). As Guo Guangcan has emphasized, "Chinese scientists have been going all out to win the worldwide race to develop a quantum computer" (*China Daily*, August 20, 2016). In August, USTC scientists reported their successful development of a semiconductor quantum chip, which could enable quantum operations and information processing (CAS, August 12). Later that month, other researchers from USTC announced a breakthrough in the preparation and measurement of six hundred pairs of entangled quantum particles (CAS, August 26). In October, USTC researchers revealed significant progress in quantum control that could enable future advances in quantum computing based on more precise quantum logic gates (*Xinhua*, October 26). As Pan Jianwei has noted, looking forward, the eventual development of a quantum computer with 50 qubits could achieve "quantum supremacy" (量子称霸)

overcoming the conventional encryption capabilities of any computer in the world (*People's Daily*, November 6). However, Pan anticipates that the creation of a "truly programmable, universal" quantum computer might ultimately require between 30 and 50 years.

Relative to quantum communication, China's quantum computing efforts have a much greater degree of private sector involvement and investment. This phenomenon is mirrored in Western nations where, at least according to public sources, advances in quantum computing are being primarily led through private sector research efforts. In China, the most visible and mature effort has occurred at the Alibaba Quantum Computing Lab, a collaboration between Alibaba's cloud computing arm, Aliyun, and CAS that was established in 2015. According to Pan Jianwei, who also serves as its chief scientist, the team will "undertake frontier research on systems that appear the most promising in realizing the practical applications of quantum computing." Their pursuit of quantum computing will take advantage of "the combination of the technical advantages of Aliyun in classical calculation algorithms, structures and cloud computing with those of CAS in quantum computing, quantum analogue computing and quantum artificial intelligence, so as to break the bottlenecks of Moore's Law and classical computing" (Alibaba, July 3, 2015).

Pan's explanation reflects the underlying rationale for the high level of investment and private sector involvement in quantum computing relative to quantum communications. While quantum encryption is useful, its commercial applications are limited, since newer, more advanced forms of cryptography can offer comparable security. Thus, quantum encryption probably will be primarily employed in particularly sensitive areas in which extra security is justified and cost isn't necessarily a factor, particularly government, military, and financial networks. On the other hand, quantum computing has a wide range of commercial applications. Once operationalized, quantum computing capabilities can be applied to any area in which raw computing power and analytics are required, conveying a unique advantage that classical computing cannot match. As the world becomes ever-more data-rich, the relevance and value of quantum computing will only increase. If Chinese scientists succeeded in creating the world's first quantum computer companies, its commercialization would also confer staggering economic dividends, enabling nearly intractable market dominance.

China's Future Quantum Trajectory

Looking forward, China has articulated an ambitious quantum agenda, which may prove feasible in light of Chinese scientists' consistent successes, as well as the high-level plans and funding. Xi Jinping himself has announced the intention for China to achieve major breakthroughs in quantum communications by 2030 (*Xinhua*, November 3, 2015). Within the next several years, the "Beijing-Shanghai Trunk" is on track to be expanded nationwide and linked with multiple metropolitan-level quantum communications networks (CCTV, August 17). A 712-kilometer portion of the line linking Hefei and Shanghai, opened in late November, and the line in its entirety is expected to be completed by the end of 2016 (*Xinhua*, November 20). China also intends to create a quantum communications network between Asia and Europe by 2020 and ultimately a global network by 2030 (*Xinhua*, November 2, 2014; *PLA Daily*, August 16). These future quantum communications networks could involve both terrestrial wide area networks and multiple quantum satellites linked with ground stations (*Xinhua*, August 16). In quantum computing, the Alibaba Quantum Computing Lab has articulated equally ambitious goals. Their team seeks to achieve the coherent manipulation of 30 qubits by 2020, to develop quantum simulation with calculation speeds that match those of today's fastest supercomputers by 2025, and to succeed in the "comprehensive realization of common-use quantum computing functions" through a quantum computer prototype with 50 to 100 qubits by 2030 (*Xinhua*, July 31, 2015; *People's Daily*, August 3, 2015; CAS, September 2, 2015; *Xinhua*, July 31, 2015). Pan Jianwei has anticipated that quantum technologies will come into use by the government agencies within the five years, reach millions of households within ten years, and become almost ubiquitous within fifteen (*Xinhua*, August 16).

Conclusion

Today, China is hurtling headlong toward the quantum era, placing its bets on the disruptive, even revolutionary potential of quantum technologies. These recent breakthroughs have been preceded and enabled by long-term efforts and investments in quantum information science, all enthusiastically backed at the highest levels of the Chinese leadership. As a result, China has made major progress toward the operationalization and commercialization of unhackable quantum communications, while seeking supremacy in quantum computing. Pan Jianwei has predicted the advent of a "revolution in quantum physics" and hopes to see the birth of a "quantum Internet" in his lifetime, even within the next fifteen years (*SCMP*, January 8; *People's Daily*, November 6).

If successful in leapfrogging the U.S. through these advances in quantum technology, China would achieve a decisive advantage in future peacetime and wartime competition alike. Although such exuberance about the future of quantum technology could prove premature, the strategic implications of these disruptive technological trends must be taken into account. China's focus on the military applications of quantum information science and the resulting strategic implications will be examined in part 2 of this series.

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New Government Continues Mongolia's Rebalance to China

By Jeffrey Reeves

The Mongolian People's Party (MPP) came to power in a land-slide election in June 2016 due to the dissatisfaction with the Democratic Party's (DP) economic policies. However, in outlining its economic development and foreign relations priorities, the MPP has made it clear that it intends to continue a core element of the previous government's approach: active engagement with the People's Republic of China (PRC). Indeed, while less referenced in MPP talking points on the country's foreign engagement, early indications suggest the Party largely preferences alignment with the PRC over its "third neighbor" partners as its support is more direct and far less conditional (*Sonin.mn*, October 17). Although China's anger at Dalai Lama's visit to Mongolia has prompted it to cancel a number of high-level meetings, this policy predilection—a legacy of the Democratic Party-led (DP) government—will likely continue a reorientation of Mongolia's strategic approach to foreign relations that began in 2014 (Chinese Ministry of Foreign Affairs, November 23).

Initially seen as the party intent on limiting Chinese influence, the DP altered its approach to the PRC in response to the country's economic slowdown and essential abandonment by foreign investors. One can trace this policy shift to August 2014, when the DP-led government agreed to a Comprehensive Strategic Partnership with China aimed at deepening policy linkages, and to November 2015, when it signed an additional agreement with Beijing for further integration (Mongolia Ministry of Foreign Affairs, April 15, 2015; Xinhua, November 11, 2015). Far from politics as usual, these two agreements marked a fundamental change in Mongolia's approach to China prioritizing interconnectivity over concerns of dependency.

As part of the Comprehensive Strategic Partnership, the DP-led government agreed to establish the Mongolian-Chinese Intergovernmental Joint Commission

on Economic, Trade and Technology and the Mongolian-Chinese Mine and Energy Integration Cooperation Committee. Both formal mechanisms are meant to improve coordination between the two states' economic systems (Xinhua, August 22). Within these frameworks, Mongolian President Tsakhiagiin Elbegdorj established an annual trade exposition in China's Inner Mongolian Autonomous Region (IMAR), a free trade zone between the two states in Erlian and Zamiin-Uud, and an economic corridor linking China and Russia through Mongolia: all key policy priorities for Beijing (*Montsame*, October 26, 2015). In 2014, the two states signed the Medium-Term Development Program for Mongolian-Chinese Economic and Trade Cooperation and agreed to double their bilateral annual trade to $10 billion by 2020 and to raise the amount of their currency swap agreement; both developments predicated on far greater Chinese involvement in the Mongolian economy than in the past (Mongolian Ministry of Commerce, November 11, 2015). The DP-led government also agreed to advance coordination between Mongolia's national development strategy, the "Steppe Road Development Plan," and China's Belt and Road Initiative (BRI) including the "holy trinity" of mining, construction and financial cooperation (Xinhua August 22, 2014). As a result of these policy alignments, China became much more integrated in Mongolia's domestic economic sector than before (*ASAN Forum*, April 7).

In addition to economic alignment, the DP-led government also pushed for greater integration with China across the two states' political and security sectors (Xinhua, August 19, 2014). As part of the 2014 Comprehensive Strategic Partnership agreement, for instance, the DP-led government agreed to greater political integration with Beijing, including regular, formalized meetings between the two states" respective legislatures. In 2014, for example, Mongolia's Speaker of Parliament Zandaakhuu Enkhbold signed a memorandum of understanding with the Chairman of the Standing Committee of the National People's Congress Zhang Dejiang to establish a formal mechanism for engagement and exchange between Mongolia's Parliament and China's National People's Congress (Xinhua, October 27, 2014). This agreement led to unprecedented levels of cooperation between Mongolia and China's political elite.

Mongolia and China also expanded their security engagement under the DP-led government in a variety of spheres such as military-led cooperation on humanitarian and disaster relief, counter-terrorism, border security and transnational crime. In 2014, President Elbegdorj called on Mongolia's Department of Defense and the Mongolian Armed Forces to develop deeper ties with China's People's Liberation Army (PLA) for communication, strategic trust, and training purposes (UB Post, October 11, 2015). In 2015, the two states held their first ever joint-training activity for Special Forces and counter-terrorism called "Falcon 2015." Training included gunnery, helicopter fast-roping, and joint hostage rescue. Mongolia's Minister of Defense, Tserendash Tsolmon, called for more regular and higher-level military cooperation between Mongolia and China immediately after the training exercise (Xinhua, October 16, 2015).

Continuing the Tilt Toward China

Within weeks of taking power, the MPP made it clear that it would continue and expand the DP-led government's engagement approach with China. In August 2016, for instance, Speaker of Parliament Miyegombo Enkhbold and Prime Minister Jargaltulga Erdenebat—both senior MPP members—identified cooperation with China and the need for a more relaxed foreign investment environment as essential components for Mongolia's growth in the short- to medium-terms (Nikkei, July 1). Prime Minister Erdenebat called for greater cooperation with China across the two states' mineral resource, infrastructure, agriculture, transportation, and financial sectors during a meeting with Chinese Premier Li Keqiang in October 2016. The same month, Prime Minister Erdenebat also pledged Mongolian cooperation with China's BRI on infrastructure development in a separate meeting with senior Communist Party of China (CCP) official Liu Yunshan in Ulaanbaatar (Xinhua, October 1). MPP leadership has expressed its inclination to allow the Bank of China (BOC) to establish an office in Mongolia; a move the DP-led government was unwilling to take due to lobbying efforts from the country's domestic banking industry. As the BOC would offer far lower interest rates than Mongolia's domestic banks, its presence in the country would fundamentally alter its financial system and

create additional state dependency on Chinese financing (*Sonin.mn*, October 24).

The MPP has also expressed its intent to establish greater political linkages with the PRC. In his October 2016 meeting with Liu Yunshan, for instance, Prime Minister Erdenebat called for greater political engagement and coordination between Ulaanbaatar and Beijing, stating the two states must "cement" their strategic partnership (Xinhua, October 1). The same month, Speaker of Parliament Enkhbold met with President Xi in Beijing and called for continued, high-level exchange between the MPP and the CCP. Speaker Enkhbold also pledged enhanced engagement between Mongolia's Parliament and China's National People's Congress in direct response to President Xi's call for greater bilateral collaboration on governance issues (Xinhua, October 19).

The MPP has also continued the DP-led government's approach to security relations with Beijing. On October 17, the Chief of the General Staff of the Mongolian Armed Forces, Dulamsurengiin Davaa, called for a strengthening of Mongolian-Chinese military relations, to include higher-level cooperation and more frequent joint exercises, in a meeting with the Vice Chairman of China's Central Military Commission Xu Qiliang (*China Military Online*, October 17). General Davaa noted that closer political and security cooperation with China is one of MPP-led government's top foreign policy goals.

The Rebalance's Driving Force

Both the DP- and MPP-led governments employ the same rationale for pursuing closer ties with the PRC: that bandwagoning with China provides Mongolia the best opportunity for economic development and growth (News.mn, October 24). By all accounts, China has emerged as Mongolia's primary source of trade, finance, investment, and aid since the two states signed the 2014 Comprehensive Strategic Partnership; a central position within Mongolia's domestic economy that is likely to expand as the two states further consolidate their economic linkages (Mongolian Ministry of Commerce, December 12, 2015). Mongolia's other "third neighbor" partners, conversely, continue to have limited influence over the country's economic development. Japan, for instance, receives only 0.45 percent of Mongolia's exports; a base number likely to increase by only 5 percent following the two states' FTA (UB Post, October 27). Russia—often wrongly identified as Mongolia's "alternative" partner—is now a secondary economic actor for the state: its interests becoming increasingly limited with each passing year (Asan Forum, December 23, 2015). Even engagement with the IMF, which many analysts argue is the MPP's way of avoiding over dependency on China, cannot compete with the allure of PRC financing to Mongolia, whether in the shape of a currency swap agreement or a $4 billion line of credit.

As such, one can best understand the MPP's 2016–2020 Government Action Plan (GAP) as a manifesto for greater engagement with China in line with the 2014 Comprehensive Strategic Partnership. More specifically, the GAP's singular reliance on foreign investment to finance the state's domestic-level economic goals such as debt reduction, stabilization of the macro-economy, the expansion/rejuvenation of the country's mining sector, and economic diversification, were clearly drafted with the PRC in mind (Mongolian Parliament, August 26). No other state nor institution comes remotely close to matching the PRC's ability to stimulate Mongolia's economic through trade, investment, and/or aid. Neither is it certain the MPP-led government prefers alternative partnerships—including the IMF—to greater economic dependency on China (News.mn, October 13).

Importantly, Mongolia's shift toward engagement with the PRC coincides with China's own foreign policy reorientation away from greater power relations toward periphery diplomacy. Under the Xi Jinping administration, for instance, China has prioritized its ties with its neighboring states above its relations with great powers (with the potential exception of the United States) (Huanqiu, January 13, 2015). Within this larger paradigm shift, Mongolia has emerged as a strategic partner for China in terms of regional influence, peripheral security, and access to markets in the country's near and far abroad (Xinhua, April 23, 2015). The Mongolian government's decision to align more closely with the PRC since 2014 has not, therefore, occurred in a vacuum. Rather, Mongolian-Chinese linkages have deepened

as both states have redefined their contemporary strategic challenges to see partnership as beneficial, if not essential. While China's reaction to the Dalai Lama's visit has caused a diplomatic flap, and China clearly intends to attempt to leverage the temporary cancelation of talks, such rhetoric does little to change the fundamentals of the two countries' relationships.

Conclusion

The MPP's decision to continue the DP-led government's engagement strategy toward China highlights two important conditions in Mongolia's contemporary political-economic situation. First, the Mongolian government—regardless of its precise party composition—lacks the agency to direct the country's economy through entirely domestic means. Rather, as outlined in the GAP, Mongolia has become dependent on its external environment for growth opportunities and economic stability. This reliance creates vulnerabilities within Mongolia's economic sector that the state lacks the capacity to mitigate absent foreign involvement. This inability raises questions about Mongolia's domestic sovereignty or, at the very least, about the government's ability to control the state's domestic institutions.

Second, Mongolia has become reliant on China for its economic growth and stability to the point where the benefits of economic engagement outweigh the potential risk of overdependence. This understanding of Chinese influence is a fundamental break with Mongolia's past strategic thinking. As recently as 2010, for instance, the Mongolian government drafted a National Security Concept that specifically called for decreased dependency on China through a network of foreign partners, or "third neighbors." While the DP and MPP continue to pursue foreign relations that demonstrate the pretext of diplomatic diversity—most notably with Russia, Japan, and the International Monetary Fund—both parties' clear preference for engagement China since 2014 undermines this approach. For the MPP in particular, partnership with China has become largely preferable to engagement with the state's increasingly distant "third neighbors"; none of which have anywhere near the material capacity or political will to challenge China's position in Mongolia (*Sonin.mn*, October 25).

Mongolians concerned about China's growing influence over the state are unlikely to take much solace in the state of affairs. Rather than offer an alternative model for engagement with China, the MPP seems intent on accepting political and security linkages with the PRC as the price to pay for closer economic integration with the state. The MPP may justify these linkages with the understanding that Mongolia's strategic options are limited and that the state's "third neighbor" policy, while symbolically important, has lost its practical application (if, indeed, it ever had one). More likely, however, is that the MPP pursues its integration approach to China while continuing to engage with other state and institutional actors to preserve the appearance of broad engagement. While there is nothing inherently wrong in this model, particularly if Mongolia's engagement with China leads to growth with secondary effects on the country's human security, it is, however, important for analysts to acknowledge China's structural power over Mongolia's domestic and foreign policies. Failure to do so is failure to understand Mongolia's political and economic systems as they actually are, not as Western states, in particular, would like to see them.

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